



# ICAO ENGINE EXHAUST EMISSIONS DATA SHEET

## SUBSONIC ENGINES

ENGINE IDENTIFICATION: CFM56-5B4/P  
 UNIQUE ID NUMBER: 3CM026  
 COMBUSTOR:  
 ENGINE TYPE: TF

BYPASS RATIO: 5.9  
 PRESSURE RATIO ( $\pi_{00}$ ): 27.7  
 RATED THRUST ( $F_{00}$ ) (kN): 120.1

### REGULATORY DATA

CHARACTERISTIC VALUE:	HC	CO	NO <sub>x</sub>	SMOKE NUMBER
D <sub>p</sub> /F <sub>00</sub> (g/kN) or SN	10.4	42.1	54.6	7.0
AS % OF ORIGINAL LIMIT	53.1	35.7	57.2	31.1
AS % OF CAEP/2 LIMIT (NO <sub>x</sub> )			71.6	
AS % OF CAEP/4 LIMIT (NO <sub>x</sub> )			86.3	
AS % OF CAEP/6 LIMIT (NO <sub>x</sub> )			98.0	
AS % OF CAEP/8 LIMIT (NO <sub>x</sub> )			116.5	

### DATA STATUS

- PRE-REGULATION  
 x CERTIFICATION  
 - REVISED (SEE REMARKS)

### TEST ENGINE STATUS

x NEWLY MANUFACTURED ENGINES  
 - DEDICATED ENGINES TO PRODUCTION STANDARD  
 - OTHER (SEE REMARKS)

### EMISSIONS STATUS

x DATA CORRECTED TO REFERENCE  
 (ANNEX 16 VOLUME II)

### CURRENT ENGINE STATUS

(IN PRODUCTION, IN SERVICE UNLESS OTHERWISE NOTED)  
 x OUT OF PRODUCTION (DATE: - )  
 - OUT OF SERVICE (DATE: - )

### MEASURED DATA

MODE	POWER SETTING (%F <sub>00</sub> )	TIME (minutes)	FUEL FLOW (kg/s)	EMISSIONS INDICES (g/kg)			SMOKE NUMBER
				HC	CO	NO <sub>x</sub>	
TAKE-OFF	100	0.7	1.132	0.20	0.90	28.00	5.4
CLIMB OUT	85	2.2	0.935	0.20	0.90	23.20	4.1
APPROACH	30	4.0	0.312	0.50	2.30	10.00	0.2
IDLE	7	26.0	0.104	4.60	23.40	4.30	0.5
LTO TOTAL FUEL (kg) or EMISSIONS (g)			408	818	4123	5641	-
NUMBER OF ENGINES				1	1	1	1
NUMBER OF TESTS				3	3	3	3
AVERAGE D <sub>p</sub> /F <sub>00</sub> (g/kN) or AVERAGE SN (MAX)				6.8	34.3	47.1	5.4
SIGMA (D <sub>p</sub> /F <sub>00</sub> in g/kN, or SN)							
RANGE (D <sub>p</sub> /F <sub>00</sub> in g/kN, or SN)							

### ACCESSORY LOADS

POWER EXTRACTION 0 (kW) AT - POWER SETTINGS  
 STAGE BLEED 0 (% CORE FLOW) AT - POWER SETTINGS

### ATMOSPHERIC CONDITIONS

BAROMETER (kPa)	98.2-99.6
TEMPERATURE (K)	281.5-283.6
ABS HUMIDITY (kg/kg)	0.0065-0.0075

### FUEL

SPEC	Jet A
H/C	1.92
AROM (%)	19

MANUFACTURER: CFM International  
 TEST ORGANIZATION: CFM56-5B Eval Engineering  
 TEST LOCATION: Techspace-Aero Facility, Liege, Belgium  
 TEST DATES: 01/11/1995

### REMARKS

1. FAA Certification Report CR-797/P, June 95.
2. Engine S/N 779-194/1

Compliance with Fuel Venting requirements: -

('x' if complies, 'PR' if pre-regulation, '-' if information is not available)